

# CENTRAL RECYCLING SERVICES

## TIRE AND RUBBER RECYCLING

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**Tire Burn test January 15, 2000**

**Location: Willoughby Volunteer Fire Hall, Sodom Road Chippawa**

Present: Barney Ruddell - Assistant Fire Chief  
Gary Rogers - Assistant Fire Chief  
Members of the Willoughby Volunteer Fire Department

The test that occurred Saturday morning at the fire hall consisted of three different scenarios and two different types of tire fires. The first fire was tested on the "baled" Enviro-Block. Straw was placed underneath and around the bale simulating a grass fire situation. Approximately 1 litre of gasoline was placed around the perimeter of the straw which surrounded the bale. This straw was then set a blaze and allowed to burn for a period of five minutes. The outside of the bale seemed to catch fire quickly, however the fire was easily extinguished with plain water and one hose. It took about 1 minute 45 seconds to extinguish.

The second burn was done to a loose tire pile of about a dozen scrap tires laid on a bed of straw with a loose straw surrounding the pile to also simulate a grass fire situation. Once lit, the tires caught fire very quickly and started to burn at very high temperatures. Observers could tell this from the thick black smoke (meaning the tires were melting) and the height of the flames. This pile only burned for three minutes. It got so big that the Fire Chief decided it would be a good time to extinguish it before it got out of hand. The burn lasted for only three minutes and it took the fireman seven and a half minutes to extinguish the flames. The pile then had to be separated with a pole hook and doused inside to make sure it was completely out.

The third scenario was tested on the tire "bale" again, meant to simulate an ARSON ATTEMPT. Approximately 3 litres of gasoline was poured on top of the bale and allowed to soak into the centre of the bale. Two minutes later the bale was set on fire by throwing a handful of burning straw on the top of the bale. The fuel caught fire immediately but the bale only burned where the fuel had spilled on it. The straw underneath started on fire that was left over from the last burn as it was now soaked with fuel. A few seconds after the ignition of the flame there was a small explosion inside the bale and this was heard a number of times over the next seven minutes of burn time. The

bale did NOT seem to get engulfed in flames or become fully involved, only to a point where there was a small flame and a bit of smouldering smoke. After the eight minute mark the fireman again set to work to extinguish the fire. It was put out in **less than two minutes.**

**Conclusion:**

The tire bales seem to *NOT* catch fire as a whole very easily as a loose tire would. The outside of the bale got charred a bit and the bindings did NOT fail. The bale was picked up by a flatbed tow truck two hours after the burn test and was dragged up the bed using a chain on the wire bale. Even after the temperatures it endured, the wires still held fast. The Loose tires were burnt to a point of cords were showing through and the sidewalls were almost non existent on many of the dozen tires. In my opinion the loose tires (numbering about a dozen) made a much bigger and more profound flame and higher temperature than the baled tires did. The loose tire pile was also being doused with a foam mixture that was mixed at the pumper truck, which is used specifically for tire fires. The baled tires were doused only with straight water at my request.

I believe that baling scrap tires and stacking them in rows for storage, with adequate spacing between the rows, will eliminate another Hagersville Tire Fire Disaster. Arson will be difficult to ignite these bales also reducing the problem. I would like to see the Ministry of the Attorney Generals Office ( the Fire Marshal of Ontario) make guidelines on what they believe would be adequate spacing of the rows and heights of these tire bales for storage purposes. Our company will continue to look for alternative projects for bale applications for the future.

  
Tom Domonkos